

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

<p>CONSERVATION LAW FOUNDATION, INC.,</p> <p style="text-align: center;">Plaintiff,</p> <p style="text-align: center;">v.</p> <p>MITT ROMNEY, in his Official Capacity as GOVERNOR OF MASSACHUSETTS, <u>et al.</u>,</p> <p style="text-align: center;">Defendants.</p>	<p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p>	<p>CIVIL ACTION NO. 05-10487-NG</p>
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STATE DEFENDANTS' REPLY MEMORANDUM

The last several weeks have seen an exceptional amount of policy commentary about the transit projects at issue here. In particular, a provocative on-line opinion piece has prompted no less than 15 responses from prominent transportation figures. See Exhibit A (reproducing original article, responses, and author's reply). What is striking about this debate is the relatively low emphasis that defenders of the contested projects place on improving air quality as a justification for them.¹ This confirms that while the present action is a Clean Air Act case, it actually has rather little to do with clean air, serving instead as an attempt to give particular projects a "leg up" in the ongoing transportation policy debate. To play that role, however,

¹ For example, CLF's own President complains that the commentator based his analysis "entirely on dollar amounts and units of air pollution" and "fail[ed] utterly to create the linkage between reliable, accessible transit and urban revitalization." Exh. A p. 27. The President's concluding argument for the projects similarly subordinates air quality to other concerns. *Id.* p. 28 ("Th[e] price [of not building the projects] includes lost economic development opportunities, poorly planned sprawl development, consumption of open space, longer commutes on our highways, degraded health, increased air pollution, and poorer quality of life").

CLF's claims must be legally cognizable ones under the Act. For the reasons set forth below and in the State Defendants' original Memorandum ("State Defendants Memorandum"), the claims in Counts 1 and 5-12 clearly are not, as a matter of law.

I. THE CURRENT MOTION PRESENTS NO ISSUE REGARDING "FEDERAL ENFORCEABILITY."

CLF repeatedly asserts that the State Defendants seek broad restrictions on federal enforcement of the Act and the Commonwealth's SIP under it. See, e.g., CLF Opp. pp. 15-16, 19-20, 32. This seriously misapprehends both the issues raised in the present Motion and the State Defendants' position regarding them. The State Defendants in fact recognize a wide range of federal enforcement, whether by citizen suits under the "emission standard or limitation" and "state order" components of 42 U.S.C. § 7604(a)(1)² or by EPA itself. Specifically, the State Defendants recognize that Section 7604(a)(1)(A)'s "emission standard or limitation" component allows citizens (in addition to EPA) to enforce (1) certain provisions in the Act itself, see, e.g., Conservation Law Found. v. Busey, 79 F.3d 1250, 1258-60 (1st Cir. 1996); (2) sufficiently specific and objective terms of the actual SIP document, see, e.g., Conservation Law Found. v. Fed. Highway Adm., 24 F.3d 1465, 1477-78 (1st Cir. 1994); and (3) the terms and conditions of permits issued under Subchapter 5 of the Act (which EPA ordinarily must approve, and which are not at issue here), see 42 U.S.C. § 7604(f)(4); see also fn. 8 infra. The latter two categories encompass documents that require EPA approval; there accordingly is no dispute that they can be enforced by citizens and EPA against both states and private parties unless and until EPA

² As quoted at more length at p. 3 of State Defendants' Memorandum, Section 7604(a)(1) allows citizen suits for "violation[s] of (A) an emission standard or limitation under this chapter or (B) an order issued by the [EPA] Administrator or a State with respect to such a standard or limitation." Id. CLF's Opposition completely ignores Subsection (B).

modifies their provisions.³ In addition, the State Defendants recognize that Section 7604(a)(1)(B) separately allows enforcement by citizens against private parties (as well as by EPA against both states and private parties) of an “order issued by . . . a State with respect to . . . [an emission] standard or limitation,” unless and until the state modifies the order’s provisions. See State Defendants’ Memorandum pp. 5-7.⁴ Although extant state orders are thus actionable under Section 7604(a)(1)(B) even without EPA’s participation in them, CLF curiously makes no mention of this separate enforcement vehicle.

³ EPA recognized its authority to enforce SIP terms when it stated, in its Final Rule approving the inclusion of the Vent Stack Regulation in the Massachusetts SIP, that “federally approved SIP provisions are enforceable by EPA under section 113 of the Clean Air Act.” 57 Fed. Reg. 46310, 46312. While CLF tries to read this language as also extending to documents outside of the SIP, CLF Opp. pp. 29-30, the text does not support its argument: “SIP provisions” mean “SIP provisions,” no more and no less. The language in the preceding sentence of the EPA Rule reinforces this conclusion by assigning enforcement of certifications under the Regulation to DEP, rather than EPA. 57 Fed. Reg. 46310, 46312 (“EPA expects, in the first place, that DEP will ensure compliance with the regulation and any certification issued thereunder”).

⁴ As noted at p. 6 of State Defendants’ Memorandum, a citizen’s ability to enforce a Section 7604(a)(1)(B) “state order” against the state itself is far less clear because of the statute’s express incorporation of the Eleventh Amendment, an incorporation that necessarily includes the settled rule that private citizens cannot ask a federal court to order state officials to comply with state law (EPA’s enforcement actions, in contrast, are not subject to the Eleventh Amendment). While the State Defendants continue to reserve their rights with respect to the Eleventh Amendment issue, see id. p. 6 n. 7, the Court need not reach it in the present Motion, which relies instead on the narrower ground that the particular state orders at issue in Counts 1 and 7-12 have been superseded. CLF does confuse two separate branches of Eleventh Amendment doctrine when it argues that a citizen can sue a state official for state law violations as long as the relief sought is limited to injunctive and declaratory. CLF Opp. p. 27 n. 8. In reality, a citizen cannot sue a state official for any relief whatsoever under state law. Pennhurst State School & Hospital v. Halderman, 465 U.S. 89, 117 (1984). The limitation to injunctive and declaratory relief is a separate restriction on the citizen’s ability to sue for violations of federal law. See generally id. at 102-03; see also Chaulk Services v. MCAD, 70 F.3d 1361, 1362 (1st Cir. 1995) (decision cited by CLF involved federal law claim).

The State Defendants are thus hardly attempting to eviscerate the citizen suit statute, and the Court need not reach any broad issues of federal enforcement. The current Motion instead presents two discrete and specific subissues:

1. Whether the SIP's requirements regarding the Green Line extension and the Red-Blue Connector are currently enforceable in a citizen suit when the SIP's only deadlines for those requirements are far off into the future?
2. Whether DEP orders and permit terms that are not themselves part of the SIP and that are not subject to EPA approval are enforceable in a citizen suit after DEP has replaced them with other orders and terms -- i.e., are they still enforceable in their original form after they have been superseded by the state agency that has the authority to promulgate them?

For the reasons that follow, the answer to both questions is no.

II. THE SIP'S FAR-OFF DEADLINES FOR THE GREEN LINE EXTENSION AND THE RED-BLUE CONNECTOR ARE NOT PROPERLY THE SUBJECT OF A CITIZEN SUIT NOW.

CLF claims that the Transit Regulation's "plan and construct" language creates a current, ongoing violation as regards the Green Line Extension and Red-Blue Connector claims. CLF Opp. pp. 11-13. While there is no dispute that EPA has incorporated the Transit Regulation into the SIP, 40 C.F.R. § 52.1120(c)(101)(I)(B), CLF reads the Regulation too selectively. The pertinent section provides:

(2) Transit System Improvement Projects. EOTC shall plan and construct and render available for public use, transit system improvement projects including the following projects in accordance with the schedules set forth in this section:

...

(h) Before December 31, 2011 construction of the following facilities shall be completed and shall be opened to full public use:

1. Green Line extension to Ball Square/Tufts University

2. Blue Line connection from Bowdoin Station to the Red Line at Charles Station.

310 C.M.R. § 7.36(2)(h) (emphasis added). As the emphasized language makes clear, the SIP requirement is not a generalized one to “plan and construct,” but instead a qualified and very specific one to “plan and construct . . . in accordance with the schedules set forth in this section.” *Id.* § 7.36(2). The only obligation that the referenced “schedules” in turn impose for the projects at issue is that “[b]efore December 31, 2011 construction . . . shall be completed.” *Id.*

§ 7.36(2)(h). The “schedules” set no corresponding date for when construction should be commenced and say nothing whatsoever about when planning should occur. *Id.* As modified by the “in accordance with the schedules” language, therefore, the text of the SIP simply does not impose the “plan and construct” requirement that CLF asserts.⁵ The plaintiff is wrongly attempting “to extrapolate from the Plan or flesh out strategies not expressly contained therein.” *Citizens for a Better Env. v. Deukmejian*, 731 F. Supp. 1448, 1459 (N.D. Cal. 1990); *accord Wilder v. Thomas*, 854 F.2d 605, 614 (2nd Cir. 1988).

CLF alternatively asserts that even if the “completion of construction” deadline were the only one imposed by the SIP, it can still sue on that deadline now, years in advance, because the deadline supposedly will be impossible to meet. CLF Opp. pp. 13-15. However, CLF cites no decision under the Act recognizing such an expansive theory of liability, which would allow a

⁵ Even if the obligation were to exist, a generalized duty to “plan and construct,” untethered to any actual date, is simply not particularized enough to satisfy the requirement of “specific, objective standards for citizen suits.” *Wilder v. Thomas*, 854 F.2d 605, 614 (2nd Cir. 1988). It also merits emphasis that on a motion to dismiss the actual terms of an attachment to a complaint control over the pleading’s characterizations of it. *See, e.g., Dames & Moore v. Baxter & Woodman, Inc.*, 21 F. Supp. 2d 817, 823 (N.D. Ill. 1998); *Honess 52 Corp. v. Town of Fishkill*, 1 F. Supp. 2d 294, 300 (S.D.N.Y. 1998).

citizen to sue at any time over any future deadline merely by alleging “impossibility.”⁶ Under CLF’s approach, it indeed could have sued on these claims and survived a motion to dismiss in 1992, as soon as EPA incorporated the Transit Regulation into the SIP. See 40 C.F.R. § 52.1120(c)(101)(I)(B). The impossibility theory effectively attempts to use a lawsuit to ensure a “seat at the table” in future transportation debates -- an unwarranted approach that the Court should reject.

Even if an impossibility theory were legally cognizable, CLF’s Complaint fails to provide the factual predicate for it here. While Section 7.36(2)(h) of the Transit Regulation references a December 31, 2011 completion date, Section 7.36(3)(a) further provides:

- (a) Should projects listed in 310 C.M.R. 7.36(2) be delayed in their implementation, EOTC shall notify the Department of the delay at the earliest opportunity, but in no case later than 60 days prior to the deadlines established in 310 CMR 7.36(2), said notification to include: [1.] [e]xplanation of the reasons behind the delay; [2.] [i]dentification of measures being taken to reduce the delay; and [3.] [a] proposed alternative deadline for completion of the project.
- (b) Within 60 days of receiving a complete notification of project delays, the Department will confirm the new project schedule in writing to EOTC.
- (c) A substitute project shall be investigated and proposed for project [sic] which is expected to be delayed more than three years beyond the deadline established in 310 C.M.R. 7.36(2).

310 C.M.R. § 7.36(3). The Transit Regulation thus allows project extensions upon request for an additional three years, with substitute projects required only after that time. This means that the deadline for the Green Line extension and the Red-Blue Connector with available extensions

⁶ The closest that CLF comes is an attempted analogy to the common law of contracts’ anticipatory repudiation doctrine. CLF Opp. pp. 14-15. This is inapt because “a SIP is not, in any meaningful sense of the term, a contract.” American Lung Ass’n v. Kean, 670 F. Supp. 1285, 1291 (D.N.J. 1987).

is December 31, 2014, a date more than 9 ½ years hence.⁷ The Complaint does not and cannot allege that it is “impossible” to meet the 2014 date, and CLF fails to set out an impossibility claim even if such a theory were legally cognizable.

III. SUPERSEDED TERMS IN THE VENT STACK PERMITS ARE NOT ACTIONABLE IN A CITIZEN SUIT.

In their initial Memorandum, the State Defendants acknowledged that at least some DEP-issued permits could constitute “state orders” within the meaning of Section 7604(a)(1)(B) while they remained operative, State Defendants’ Memorandum pp. 6 n. 6, 9 n. 11, but argued that the pertinent provisions in the Vent Stack Permits had been superseded by the Administrative Consent Orders (“ACO’s”) and hence were no longer in effect. *Id.* pp. 6-7, 16-19. CLF makes no response whatsoever to that “state order” argument under Section 7604(a)(1)(B). *See* CLF Opp. pp. 15-30. This is undoubtedly because it is hard to dispute that, as argued at State Defendants’ Memorandum p. 7, a state retains plenary authority to revise and rescind orders that it has issued in its sovereign capacity as a state. *See, e.g., United States v. Locke*, 529 U.S. 89, 109 (2000) (“It is fundamental in our federal structure that States have vast residual powers”).

CLF instead proceeds on the theory that the Vent Stack Permits are not state “orders” under Section 7604(a)(1)(B) but rather “emissions standards and limitations” under Section 7604(a)(1)(A), as that latter phrase is defined by Section 7604(f)(4) to include certain “permit term[s] and condition[s] . . . in effect under [the SIP].” CLF Opp. pp. 21-25. The State Defendants disagree that the Vent Stack Permits are in fact among the permits encompassed by

⁷ CLF makes a conclusory objection to this reading of Section 7.36(3), *see* CLF Opp. p. 14, but provides no explanation why it does not follow directly from the regulation’s text, as quoted above.

Section 7604(f)(4).⁸ However, even if one were to assume arguendo that the Vent Stack Permits fall within Section 7604(f)(4) as a general matter, the specific provisions in them that the ACO's have superseded are not currently "in effect" for purposes of that statute.

CLF at no point has contended that the Vent Stack Permits were subject to EPA's review or approval, and it therefore makes no claim that EPA must approve any revision of them in the future.⁹ The Permits instead were issued solely by the state and therefore can be revised solely by the state. As a result, all of the State Defendants' arguments regarding a state's inherent authority in a federal system to revise its own "orders" apply with equal strength to a state's ability to revise its own "permits." See State Defendants' Memorandum pp. 6-7. A case cited

⁸ Since Section 7604(f)(4)'s initial reference to "permit" is limited to one "issued pursuant to subchapter V of this chapter," all subsequent references to "permit" in that Section should be read as similarly limited. See, e.g., Circuit City Stores, Inc. v. Adams, 532 U.S. 105, 114-15 (2001) ("[W]here general words follow specific words in a statutory enumeration, the general words are construed to embrace only objects similar in nature to those objects enumerated by the preceding specific words."). This is particularly true where Congress added Subsection (4) to Section 7604(f) at the same time that it enacted Subchapter V's operating permit program, in the Clean Air Act Amendments of 1990. Pub. L. 101-549, §§ 501, 707(e) (1990), 104 Stat. 2635, 2683. Scholarly commentary reflects this construction. Anthony Wynne, Sierra Club v. Public Serv. Co., 14 Pace Env't'l L. Rev. 383, 392 (1996) ("The 1990 amendments broaden the scope of CAA citizen enforcement by adding the authority to enforce any of the provisions of the new general permit scheme of Title V, or any EPA-approved SIP"); Roy Belden, Preparing for the Onslaught of Clean Air Act Citizen Suits, 1 Env't'l Law. 377, 384 (1995) ("Moreover, Congress amended the citizen suit provision . . . [to] provide citizens with the authority to enforce provisions of the operating permit program and any EPA-approved SIP"). CLF's citation to Communities for a Better Envir. v. Cenco Refining Co., 180 F. Supp. 2d 1062 (C.D. Cal. 2001), is distinguishable because the permit at issue there was an explicit term of the SIP. Id. at 1072, 1077. The cases cited at p. 30 of the CLF Opposition are similarly inapposite as involving either Subchapter V permits or permits actionable under a separate section of the citizen statute, 42 U.S.C. § 7604(a)(3).

⁹ This contrasts with the Vent Stack Regulation and the Transit Regulation, both of which are part of the SIP and hence can be revised only with EPA approval. See, e.g., Bayview Hunters v. Metro. Trans. Comm'n, 366 F.3d 692, 695 (9th Cir. 2004). CLF concedes that the Vent Stack Permits are not part of the SIP. CLF Opp. p. 21.

by CLF, U.S. v. Louisiana Pacific Corp., 908 F. Supp. 835 (D. Colo. 1995), in fact illustrates this well. There the United States criminally prosecuted a company for violating the terms of state permits that were issued with respect to a SIP but were not themselves part of the SIP. Id. at 840. Although the Louisiana Pacific Court held that those state-issued permits were federally enforceable and hence properly the subject of a criminal prosecution while they were in effect, id. at 840-43, it also ruled that once the state had cancelled a permit that permit no longer could provide the basis for federal enforcement. Id. at 845 (dismissing certain counts of indictment because the allegedly false “reports were filed . . . after the issuance of the ‘92 permit canceling the [prior permit’s reporting] requirements”); see also id. at 839-40, 843-44 (assuming that separate settlement agreement with state enforcement agency could alter the original permit’s terms and thereby eliminate federal enforcement for certain other counts, but ruling that the agreement did not in fact effect such an alteration).

CLF does not appear to contest the general proposition that a state can revise its own permits or orders and, as in Louisiana Pacific, thereby alter their federal enforceability. See CLF Opp. pp. 15-30. Its specific argument is instead that the ACO’s did not supersede the Vent Stack Permits because the DEP failed to comply with the Vent Stack Regulation’s supposed procedural requirements when it issued the ACO’s. CLF Opp. pp. 16-21. However, CLF provides no explanation as to exactly why this is. Id. It indeed never made a claim regarding the Vent Stack Regulation in its Complaint at all; the pleading’s detailed allegations are instead carefully limited to claims of procedural noncompliance with the Vent Stack Permits and the Transit Regulation.

Complaint ¶¶ 42-43, 45-46, 48.¹⁰ The undoubted reason for this reticence is that the Vent Stack Regulation says nothing whatsoever, whether in terms of procedure or otherwise, about modifying the conditions of a “preconstruction certifications” such as the Vent Stack Permits. 310 C.M.R. § 7.38. While the Regulation does set out procedures for certain specific actions (including issuance of a “preconstruction certification,” *id.* § 7.38(3); issuance of a subsequent “operating certification” (to occur within 18 months after a project’s roadways are open to general use), *id.* §§ 7.38(4)(a)-(b), (5); and five-year renewals of the “operating certification,” *id.* §§ 7.38(4)(d), (5)), modifying a condition in a preconstruction certification is not one of them.¹¹ In particular, nothing in the Regulation requires a formal amendment to a preconstruction certification, with a repetition of the procedures mandated for the original certification, whenever

¹⁰ CLF is of course free to seek to amend its Complaint and attempt a claim for violation of the Vent Stack Regulation. It has not made such a claim to date, however, and the present pleading should rise or fall on the basis of its actual claims. CLF’s Opposition does continue to assert -- again without any explanation or elaboration -- the Complaint’s claim that the ACO’s failed to comply with the Permits’ procedural requirements. CLF Opp. pp. 17-18. Simply saying something does not make it so, no matter how many times it is said. In particular, CLF provides no response to the State Defendants’ argument that DEP retains as much inherent authority to amend its permits’ procedural requirements as it does any of their other provisions. See State Defendants’ Memorandum p. 19.

¹¹ Perhaps most tellingly, the Regulation contains lengthy provisions for a “mid-term adjustment” should air quality deteriorate during the five-year life of an operating certification, *id.* §§ 7.38(6)-(7), but says nothing at all about interim adjustments during the term of a preconstruction certification. The Regulation in fact appears to contemplate that DEP’s review of the effectiveness of a preconstruction certification’s provisions is to occur later, at the time of the submission of an operating certification. *Id.* § 7.38(6). This makes sense because offsetting the contemplated air-quality impacts of a roadway’s operation, rather than its construction, is the reason that mitigation measures are required in the first place. The fact that the Regulation’s monitoring and record-keeping provisions focus on pollution emissions and traffic counts -- i.e., on data that necessarily arise from operation rather than construction -- reinforces this conclusion. *Id.* §§ 7.38(8)-(9).

a condition in the original certification is modified.¹² The ACO's asserted noncompliance with the Vent Stack Regulation thus has no support in the text of the Regulation itself.

CLF also gains no ground with its overstated assertions that recognizing the ACO's supersession of the Vent Stack Permits will seriously undercut the Act and its air-quality goals. CLF Opp. pp. 19-20. As the First Circuit has already ruled, the Vent Stack Regulation itself was "a step that the state need not [have] take[n] at all" for purposes of compliance with the Act. Sierra Club v. Larson, 2 F.3d 462, 470 (1st Cir. 1993). This tempered view of the Regulation extends, a fortiori, to permits issued under it. DEP's alteration of the Vent Stack Permits' provisions is thus hardly the cataclysmic event that CLF contends, and those provisions are not an "emissions standard or limitation" for purposes of 42 U.S.C. §§ 7604(a)(1)(A) because they are not currently "in effect" as required by Section 7604(f).¹³

As a final matter, CLF's current claims in Counts 1 and 7-12 could not stand even if one were to accept its argument that the ACO's, viewed as separate documents, fail to supplant the

¹² If the Vent Stack Regulation were to require such a formal amendment, then the modification provisions in the Vent Stack Permits themselves might be open to question, because the Permits do not require the hearings set forth in the Regulation. See Complaint Exhs. 3-4. Needless to say, CLF makes no claim that the Permits' enumerated procedures violate Section 7.38; it instead embraces them and argues (albeit without success) that they provide a further basis for challenging the effectiveness of the ACO's. CLF Opp. pp. 17-18; see fn. 10 supra.

¹³ The Permits' terms also are not "in effect under . . . an applicable implementation plan" for purposes of Section 7604(f) because they are not actually part of the SIP itself. The First Circuit has read "under" a SIP as meaning "in" the SIP for purposes of Section 7604(f)(4), the subsection that CLF invokes here. Conservation Law Found. v. Busey, 79 F.3d at 1258 n. 1 ("Subsection (4) deals with conformity requirements under a[] SIP and does not apply because the requirements were not incorporated into New Hampshire's plan at the material times [emphasis added]"); accord Conservation Law Found. v. Fed. Highway Admin., 24 F.3d at 1477 ("According to its plain language ['in effect under this chapter'], this section [7604(f)] includes 'standards of performance' set out in the Act itself [emphasis added]"); Cate v. Transcontinental Gas Pipe Line Corp., 904 F. Supp. 526, 533-35 (W.D. Va. 1995).

Amended Vent Stack Permit. This is because the Amended Permit incorporates by reference the provisions of the original ACO, Complaint Exh. 4, p. 1 (“This Consent Order is hereby incorporated by reference into this decision”), and the original ACO alters each of the requirements that CLF bases Counts 1 and 7-12 on, see State Defendants’ Memorandum pp. 10-11, 17 n. 21. Since CLF at no point disputes the Amended Permit’s validity, a concession that necessarily extends to all of the provisions that the Permit incorporates by reference, the claims in Counts 1 and 7-12 cannot prevail even under CLF’s current legal theory.

IV. CONCLUSION

For the foregoing reasons, the Court should allow State Defendants’ Partial Motion to Dismiss and dismiss Counts 1 and 5-12 of the Complaint.

By their attorneys,

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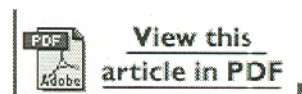
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Spring 2005

CONSIDERED OPINION**Dug in****It's time to reconsider Big Dig-related transit projects***By David Luberoff*

More than 35 years ago, on February 11, 1970, Gov. Frank Sargent gave an extraordinary speech. In a 10-minute televised address explaining how he would deal with the bitter controversies surrounding several highways that the state was planning to build inside of Route 128, Sargent said this: "Four years ago, I was the commissioner of the Department of Public Works—our road building agency. Then, nearly everyone was sure highways were the only answer to transportation problems for years to come. We were wrong."



Sargent went on to say that he was launching a full-scale review of the region's highway and transit plans. That review, conducted under the supervision of Alan Altshuler, an MIT political scientist whom Sargent later appointed as the state's first secretary of transportation, subsequently led Sargent to cancel virtually all planned highways inside of Route 128 and to launch a massive program to rebuild and expand the region's rail transit system. In many ways, the Commonwealth is still carrying out the transportation agenda that Sargent launched that night.

**There is no data to suggest that more
rail service will mean better air quality.**

There is another years-old commitment propelling the state's transportation projects: the Big Dig. The Central Artery/Tunnel project in downtown Boston is not only a \$14.6 billion highway project in downtown Boston, it also dictated (via its environmental permits) legally binding commitments to build a host of public transit projects billed as necessary to meeting environmental goals.

Unfortunately, the assumptions driving today's transit projects are as wrong as the assumptions that drove yesterday's highway projects. Specifically, there is no data to suggest that 14 rail projects—including three that are the subject of a lawsuit filed in January by the Conservation Law Foundation and others—are needed to prevent worsening air quality and congestion in the region, as the Big Dig-related agreements insist. What we could use now is someone of Frank Sargent's character, someone who has the courage to say, "We were wrong."

BIG DIG TRADE-OFFS

Under state and federal laws, the Big Dig could not proceed until state officials analyzed the project's environmental impacts, and state law required that those impacts be mitigated. The final environmental analysis, issued in November 1990, predicted that if the project were built there would be very small reductions in emission of the two pollutants that combine in sunlight to form smog: volatile organic compounds and nitrogen oxides.

Transit advocates and environmentalists, most notably the Conservation Law Foundation—which was then headed by Doug Foy, now secretary of the state's Office of Commonwealth Development—claimed that the anticipated pollution reductions were not due to the Big Dig at all but were attributable to several transit projects that would also be open by 2010, and which were included in the Big Dig environmental-impact modeling. If these transit projects accounted for the environmental gains cited in defense of the Big Dig, Foy and others contended, the state should make a legally binding commitment to build them along with the

Central Artery/Tunnel project.

Fred Salvucci, then the state's secretary of transportation, initially refused to sign such an agreement because he felt the Big Dig was an environmentally beneficial project by itself, largely because it would replace an ugly elevated highway with an underground road topped by appropriately scaled parks and buildings. By December 1990, however, Salvucci was ready to strike a deal, in part because he was concerned that political or legal challenges might delay or even stop the project, and in part because he wanted to make it hard for incoming Gov. William Weld, who had campaigned as a tax cutter, to slash transit spending. So Salvucci and Foy signed a pact committing the state to construction of all 14 transit projects named in the Big Dig's environmental documents. In return, CLF pledged not to challenge the project in court, and even to defend the Big Dig against other lawsuits challenging the project's environmental approvals. John DeVillars, then the state's secretary of environmental affairs, made the agreement part of his official approval of the Big Dig's environmental impact report, a ruling he issued the day before Weld took office.

"It is critical that these mitigation measures be implemented," DeVillars wrote in his ruling. "They are absolutely necessary to achieve greater air quality improvements in metropolitan Boston." In a 1992 settlement to a court suit filed by CLF asserting that the Weld administration was reneging on these commitments, the Weld administration agreed to make them part of the state's official plan for complying with the federal Clean Air Act.

Since that time, many of the projects named in the Big Dig agreement have been built—most notably restoring service on two of the three branches of the South Shore's Old Colony rail line; extending the Framingham commuter rail line to Worcester; and extending the Ipswich commuter rail line to Newburyport. But because the state hasn't met the agreement's timetables for completing the projects, CLF has been in and out of court, and, in the process, obtained renewed commitments from the state to build these and other transit projects.

In January, CLF and others filed suit once again, demanding that the state move forward on three projects they claimed the state had neglected: extending the Green Line from Lechmere to West Medford, connecting the Red and Blue lines at Charles Street, and restoring trolley service on the Arborway Line. At the press conference announcing the suit, CLF president Philip Warburg contended these projects are needed to "help make up for the air pollution generated by the cars and trucks using the 'Big Dig' road system." A few weeks later, Salvucci echoed these views, telling Boston Globe columnist Joan Vennoch, "We always knew that [the Big Dig] would create a very brief improvement and things would recongest if we did not improve public transportation."

Trouble is, the Big Dig's environmental documents actually tell a somewhat different story. To begin with, they clearly state (albeit in some very obscure places) that the transportation and air quality analyses assumed construction of only six planned transit projects, not the 14 required in the CLF agreement. (The six projects were the Old Colony and Newburyport commuter rail lines; the Red Line/Blue Line connector; improvements at South and North Station; and restoring Green Line service on the Arborway Line.) The eight other projects specified in the CLF agreement—including the Green Line extension to Medford, the Worcester commuter rail extension, and the Silver Line bus service to the South Boston waterfront—were not part of the modeling for environmental impact. Rather, they are mentioned elsewhere in the documents as projects that the MBTA was planning to carry out in coming years.

Unfortunately, the Big Dig's environmental document does not detail how the six transit projects would produce the modest air quality benefits projected for the Big Dig. But it's safe to assume that, for the transit projects to reduce highway congestion and, as a result, auto emissions, they would have to attract significant numbers of new transit riders, meaning people who would drive unless the projects were built.

Even at the time, however, there was significant evidence that building the rail projects would have little if any impact on traffic congestion or air quality. A landmark 1979 book by Altshuler (a colleague and co-author of mine), who had orchestrated the shift toward more spending on transit under Sargent, concluded, "transit service expansion will normally provide negligible benefits, if any, with respect to energy, air quality,

safety, or congestion." Altshuler, who is now dean of Harvard's Graduate School of Design, explained that this is due to several factors. First, there are very few corridors without rail that are dense enough to attract significant numbers of new transit riders. Moreover, drivers who get off congested roads by taking mass transit are quickly replaced by motorists whose trips were previously suppressed by congestion. He noted, for example, that studies done after the BART subway tunnel between San Francisco and Oakland opened in the mid-1970s found that one quarter of the line's 32,000 riders had previously driven to the city. However, traffic on the San Francisco-Oakland Bay Bridge (the facility most of those travelers had used when driving) hardly went down at all.

Altshuler was not alone in questioning mass transit's reduction of auto use. His findings on congestion were similar to those put forward by John Meyer, John Kain, and Martin Wohl—three of the nation's leading urban and transport economists—in their landmark book, *The Urban Transportation Problem*. Two years after Altshuler's book came out, Meyer and José Gómez-Ibáñez, another leading transport economist, echoed his findings in *Autos, Transit and Cities*, another classic work in the field. A decade later, Anthony Downs, one of the nation's leading urban economists, reaffirmed these findings in *Stuck in Traffic*.

More recently, although the Clean Air Act Amendments of 1990 explicitly envisioned transit expansion as one of the ways to achieve required reductions in air pollution, several studies done after the law's passage raised further questions about the cost-efficiency of reducing auto-related pollution by expanding mass transit. In the early 1990s, for example, David Antonioli, a Kennedy School graduate student doing a project for CLF, found that it cost about \$900 to eliminate a ton of volatile organic compounds via vapor control systems on gasoline pumps. In contrast, it cost about \$100,000 a ton to remove volatile organic compounds via transit investments. Subsequent reviews of clean air programs by the National Association of Regional Councils, the National Research Council, and the National Academy of Sciences, among others, generally confirmed Antonioli's findings.

DOING THE MATH

Since the approvals in the early 1990s, the state's own analyses have also shown that the Big Dig transit projects will do very little to clean the air or relieve traffic congestion. (See table below.) Modeling done by state transportation and environmental officials in 1991, for example, found that all the projects in the state's agreement with CLF would eliminate about two tons of volatile organic compounds from the air per day—less than 1 percent of the reductions required by the Clean Air Act Amendments of 1990. The final environmental impact statement for the Greenbush commuter rail line (one of three branches of the Old Colony rail line where service must be restored under the agreement) concludes: "the air quality impacts, as measured by EPA methods, do not show a consistent or significant air quality benefit." Despite this finding, the state is moving forward with the project.

The state's most recent "Program for Mass Transportation" contains similarly unimpressive environmental-improvement numbers. The state estimates it will cost \$621 million to build the three projects specified in the new CLF lawsuit (an estimate that is almost surely too low). The projects will eliminate 36 kilograms of volatile organic compounds and 73 kilograms of nitrogen oxides a day—only 0.018 percent of volatile organic compound emissions and 0.037 percent of nitrogen oxides emissions from mobile sources in the region. (Revealingly, the transportation planning documents measure reduction of key pollutants in kilograms while air quality planning documents measure the same pollutants in tons.)

Put another way, if the state were instead to target cars that do not meet current emissions standards, it could gain the exact same emissions reductions by finding and fixing fewer than 200 cars now on the road that do not comply with current emissions requirements. Even if it cost \$5,000 per car to identify and fix the high-polluting cars, the cost of such a program—including roadside emissions monitoring, which is technologically feasible, and forcing tune-up or replacement of high-polluting cars—would be \$1 million, less than 0.2 percent of the cost of the three transit projects. In fact, the state probably could identify and replace each of those 200 cars with a Toyota Prius hybrid vehicle for about \$5 million, which is less than 1 percent of the cost of the three transit projects.

Same thing with traffic congestion. The state calculates that the three outstanding transit projects will result in 6,490 people switching from cars to transit (an estimate that history suggests may well be too high).

Because this is a minuscule share of the 1.8 million people in the region who travel to work alone in their car each day, or of the 770,000 who use their cars to come into the city of Boston each day, it's hard to see how these projects will have any significant impact on highway gridlock.

Moreover, the new riders who turn to mass transit will come at extraordinarily high cost. The state estimates that it will cost \$375 million to extend the Green Line to West Medford. If the MBTA funds the project with 50-year bonds at a 3.5 percent interest rate, its debt service would be about \$16 million a year. (Shorter-term bonds or higher interest rates would increase the T's annual debt service costs.) If the Green Line project is built, the state estimates that 3,540 people will switch from using their cars on weekdays to the improved transit service. Assuming about 250 weekday workdays a year, that's \$18 a day in debt service alone for each new weekday rider. In fact, the actual subsidy would be even higher because the extension would require a \$1 to \$2 per passenger operating subsidy as well, because the MBTA doesn't come close to covering its operating costs from farebox revenues.

In these terms, the \$72 million Arborway Line, which would replace existing bus service, is even worse. According to state transportation planners, it would attract only 200 new riders a day. Using the same assumptions as with the Green Line extension, this suggests a cost of more than \$60 per new rider per day. Official state documents suggest the Red/Blue connector is a better deal, if only marginally, because it would require a subsidy of only about \$10 a rider per day. That figure, however, is almost certainly too low, because the state has not updated ridership projections for the project to reflect the fact that the new Silver Line will connect with the Red Line and, unlike the Blue Line, will provide a one-seat ride to each terminal at Logan Airport.

Is it wise to spend \$10, or \$20, or \$60 a day for each new rider on the transit system? No, not when the MBTA is talking about cutting suburban bus lines, where subsidies amount to about \$2 per rider per day.

Transit advocates generally reject calculations like these, objecting that there is a longstanding pattern of mistaken estimates in planning documents for major projects—the Big Dig's cost estimates being a prime example. They are right, but not in a way that helps their cause. Several reviews of rail transit projects built in the last two decades have found that projections regularly underestimate the projects' costs and overestimate their ridership. Indeed, this is exactly what has happened when Massachusetts restored service on two branches of the Old Colony rail line, and on the new Silver Line service as well.

Consider, moreover, how far off the state's estimates would have to be to make the projects seem like good investments. For the Green Line extension to Medford to be as cost-effective as the suburban bus lines the T wants to cut, the new ridership estimate would have to be low by a factor of 10, which seems highly unlikely.

Many transit advocates also argue, as Warburg did in announcing the lawsuit, that the projects should be built because the MBTA is underfunded at the expense of highways, particularly the Big Dig. This claim, too, is dubious. The official Regional Transportation Plan for the Boston Region estimates that we will spend \$9.6 billion on transit projects between 2004 and 2025 and \$7.5 billion on highways. (About \$4.5 billion of this money is for non-Big Dig projects.) This means that transit—which, according to the US Census, is used for about 15 percent of the work trips in the Boston region—will receive more money than roads, which carry the rest.

More buses would be more cost-effective.

To be fair, the T probably needs the money. A few years ago it was estimated that the MBTA would require \$500 million a year to keep its existing system in a state of good repair—about what it would have if it devoted all its capital funds to maintenance. But the T plans to spend only 70 percent of available funds on maintenance and improvements; the rest it will use to expand its system. As a result, the MBTA will only have about \$300 million a year to spend on maintenance, about 60 percent of what it has estimated that it needs to keep the system in good shape—which is the stated goal of Gov. Romney's "Fix it First" policy for spending on highways and transit.

Even if the T had money to spare for service expansions, it could easily find projects that are more cost-effective than the Green Line extension, the Arborway trolley, and the Red Line/Blue Line connector. State planners estimate, for example, that the MBTA could attract more than half the new riders produced by the Green Line extension at less than a third of its cost by buying 100 more buses and building bus lanes and priority traffic signals for its 10 busiest bus routes.

NEGLECTIBLE BENEFITS FROM NEW TRAINS				
	EXTENDING GREEN LINE TO MEDFORD	CONNECTING RED LINE AND BLUE LINE AT CHARLES STREET	RESTORING TROLLEY SERVICE ON ARBORWAY LINE	TOTAL
Capital cost	\$375,000,000	\$174,600,000	\$71,882,000	\$621,482,000
Annual debt service	\$15,987,641	\$7,443,846	\$3,064,596	\$26,496,083
Daily debt service	\$63,951	\$29,775	\$12,258	\$105,984
New riders/weekday	3,540	2,750	200	6,490
Daily cost/new rider (subsidy)	\$18	\$11	\$61	\$16
Volatile organic compounds (VOCs)				
reductions (kg/day)	20	15	1	36
Nitrogen oxide (NOx) reductions (kg/day)				
	40	31	2	73
% of all VOCs from mobile sources	0.010%	0.008%	0.001%	0.018%
% of all NOx from mobile sources	0.020%	0.016%	0.001%	0.037%
Cost per ton VOC reductions	\$2,900,158	\$1,800,418	\$11,118,355	\$2,670,216
Cost per ton NOx reductions	\$1,450,079	\$871,170	\$5,559,178	\$1,316,819

Notes: Annual debt service is based on 50-year bonds at 3.5 percent interest. Since transit primarily is needed for weekdays, daily debt service is calculated for the estimated 250 non-holiday weekdays a year. New riders/weekday is the estimated number of new transit users on non-holiday weekdays. Mobile sources include cars, trucks, and other vehicles, as opposed to fixed sites such as factories.

Sources: Capital costs, ridership, and VOC and NOx reductions from the MBTA's "Program for Mass Transportation," Table C-11. Percentages of VOC and NOx are author's calculations based on Massachusetts Department of Environmental Protection's "2002 Eastern Massachusetts Supplement to the July 1998 Ozone Attainment State Implementation Plan Submittal," Table 1.1.

BREATHING EASIER

It's time for environmentalists—and officials of state environmental agencies—to realize they are barking up the wrong tree. The simple fact is, emissions from automobiles have dropped significantly and, as a result, the region's air is getting cleaner, even without these written-in-stone transit projects.

Historically, automobiles were a major environmental problem. In the 1950s, for example, new cars emitted about 13 grams of volatile organic compounds per mile, plus 3.6 grams of nitrogen oxides. In the 1970s, federal clean air laws required dramatic reductions in these pollutants, to about 0.41 grams of volatile organic compounds and one gram of nitrogen oxides per mile. The 1990 amendments to the Clean Air Act required that by 1994 new cars emit about half what was allowed by the 1970s laws. As a result, by the mid-1990s, new cars emitted 97 percent fewer hydrocarbons and 88 percent less nitrogen oxides than cars built in the 1960s.

In Massachusetts, as in most states, the combination of cleaner cars, emissions testing in automobile inspections, reformulated gasoline, and vapor control systems at gasoline pumps have all played major roles in reducing statewide emissions of volatile organic compounds and nitrogen oxides, the components of smog. Specifically, between 1990 and 1999, the state reduced volatile organic compound emissions in eastern Massachusetts by 24 percent and nitrogen oxides emissions by 9 percent. More than half these reductions came from cleaner cars and tighter inspection programs.

Looking forward, the state's Department of Environmental Protection projects that between 1999 and 2007 emissions of volatile organic compounds and nitrogen oxides emissions will fall another 21 percent. These reductions in automobile-related emissions will also offset projected increases in emissions from other sources, such as power plants and factories. All this will take place even as total vehicle miles increase by about 15 percent between 1999 and 2007.

The reductions in emissions appear to have had an impact on the region's air quality already. In 2003 there were just 11 days when the air in any part of the state exceeded the newest, strictest federal standard for ground level ozone. (There was only one day when air quality in the state violated the older standard for ozone, the standard that was in place when the Big Dig was planned.) Moreover, six of the violations were recorded at monitoring stations on Cape Cod or in western Massachusetts, places that are downwind of pollution flowing from elsewhere, typically the New York metropolitan area. Air quality fluctuates, and 2003 was an unusually good year. But in general, air quality in the state is improving, suggesting that some of our air quality problems have nothing to do with Massachusetts conditions at all.

As a result of aggressive advocacy, the transit projects CLF is now taking the state to court over are part of the state's official plan for complying with the federal Clean Air Act, which gives them the force of law. But they are not there because they have anything to do with air quality improvement. They are there because of political expediency.

Can the state get out of the commitments? Yes, but not easily. The state is allowed to replace them with other projects that produce equal or greater air quality benefits. Given that the projects do not produce major air quality benefits, this is an easy enough standard to meet. The regulations, however, also state that the substitution can occur only if the state show that the projects give up on are fiscally, environmentally, or technologically unfeasible. A few years ago, state transportation officials tried to argue that the Arborway restoration was, in fact, unfeasible because it would produce few benefits and cause traffic tie-ups on crowded Centre Street in Jamaica Plain. But advocates of the project fought the move and state environmental regulators rejected it.

The problem in transportation politics today is that environmentalists and community activists have captured the debate, making it appear that those who question the need for expanded transit lines are against environmental protection and don't want to help those who need public transportation. I am neither anti-environment nor anti-transit. But I do believe that we live in a time when state and local budgets are badly squeezed and there's little prospect of significant new aid from the federal government. We are, therefore, especially obliged to spend money wisely in our efforts to protect and improve the environment and expand transportation options for those who need them. In neither case are costly investments in expanded fixed-rail transit systems justified.

We can significantly improve air quality at modest cost by ensuring that buses are cleaner (which the MBTA is already doing, replacing old diesel buses with new ones that are powered by compressed natural gas) and by finding and fixing (even replacing, at full cost) the relatively few automobiles that emit significant amounts of pollutants. Similarly, our transit system should be geared to providing mobility for those who most need it: the elderly, the disabled, and the poor. Study after study has shown that extensive and flexible bus systems are the most effective way to meet both these needs, at a cost far less than digging tunnels between Red and Blue Line subways or laying rails to Medford.

If we follow sensible approaches to environmental and transportation improvement, we not only will address real problems, we also will have money left over to spend on other pressing problems, such as expanding health care coverage or providing preschool education to children who would otherwise start school far behind their classmates. But we cannot do so until we stop following Frank Sargent's policies—and start following his example instead.

David Luberoff is executive director of the Rappaport Institute for Greater Boston at Harvard's Kennedy School of Government and co-author, with Alan Altshuler, of Mega-Projects: The Changing Politics of Urban Public Investment.

"Before proceeding with CA/T projects, we should look at their economic effects."

Sen. Steven Baddour

Senate Chairman, Joint Committee on Transportation

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David Luberoff's piece raises a number of key issues about the history and future of the state's commitment to Big Dig-related transportation projects. Though I do not possess the expertise to comment on the specifics of the environmental impact figures at the core of his argument, I believe his article highlights what is at stake for the Commonwealth: If we do not adapt our transportation priorities to address the changing needs of our communities, we will have spent greatly to solve little. It is clear that improving air quality means getting people off the roads; however, with limited resources, we also need to improve social justice, enhance mobility, and, above all, spur economic development. These goals are not mutually exclusive — in fact, they are complementary.

During tough financial times, it would be irresponsible not to consider the effects of transportation on the economy. Transportation projects are not only a single factor in the equation. If properly planned, they can drive growth and lead to the rebirth of struggling municipalities. As demonstrated by the past Red Line and Orange Line extensions into Cambridge and Malden, respectively, transportation initiatives can boost property values, job growth, and economic opportunity by expanding access to Boston. Before proceeding with CA/T projects, we should look at their economic effects. While a Red/Blue Line connector might not have a significant impact on its own, it could be beneficial in conjunction with a Blue Line extension to Lynn, just as a Green Line extension could improve the financial vitality of Medford and East Somerville.

Smart Growth must also be emphasized as a component of economic development. Ultimately, jobs and industry expand in densely populated areas, especially where work is at a premium. To increase ridership — and thereby protect the environment — we need to focus projects on sites with potential for job growth. The state is currently considering adding a commuter rail stop at the former Lucent Technologies site in North Andover, which at its peak housed over 5,000 employees. The facility is currently being transitioned for use as a regional biotechnology cluster, with the capacity to reemploy thousands of highly trained manufacturing workers. The addition of a new rail stop at this location would not only foster the region's burgeoning biotech industry; it would allow employees from outside the Merrimack Valley to access these jobs without ever getting in their cars. I am not suggesting that a stop at Lucent should replace projects named under CA/T guidelines, but that we should spend only on initiatives that will reduce congestion, improve air quality, and increase the tax base for local communities, which they so desperately need.

In the coming months, Massachusetts should revisit projects mandated by the Big Dig. I sincerely hope all of the parties involved are willing to expand the scope of our priorities by giving greater weight to other factors, not just air quality and decongestion. There are limits to what our transportation projects can achieve, but it would be wrong to limit those achievements ourselves. Our needs continue to change and, unless we adapt, we will only fall farther behind.

Low income communities "must expect more than bus service"

Gene Benson

Staff Attorney, Alternatives for Community & Environment, a member of On the Move: the Greater Boston Transportation Justice Coalition.

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David Luberoff's opinion piece, "Dug In," should leave readers with a "here we go again" feeling. The Central Artery/Tunnel project that moves car and truck traffic through our city more quickly is just about complete (leaving aside whatever it takes to correct the project's design and construction failures). Some suburban commuter rail projects are completed; others are under construction. But now that it is the turn of city residents to have better transit service by, among other projects, extending the Green Line to Somerville, restoring the trolley to Arborway, and connecting the Red and Blue Lines, Luberoff is saying: wait, let's stop, let's reconsider, let's not do those projects.

Luberoff correctly states that our transit system should be geared to providing mobility to those who need it the most: low income, elderly, and disabled persons. The transit system, however, must not relegate those transit dependent persons to third-class status.

There has been a history of transit disinvestment in lower income communities and communities of color in Greater Boston. Consequently, transit-dependent residents of those communities must rely on buses that run on crowded city streets, get stuck in traffic, and take much longer to go from place to place than would rail service. Luberoff's proposed cure – more buses and bus lanes – is no substitute for rail service. For example, the silver-colored bus that replaced the Orange Line on Washington Street from downtown crossing to Dudley is not equivalent to rail service, no matter how much it is hyped by the MBTA.

Luberoff is correct that the MBTA must continue to improve and modernize its bus service. Its buses must be modern, clean, and environmentally sound. It must have well designed and well maintained bus shelters with appropriate signage. It must use technology that gives buses priority at traffic lights. It must coordinate with municipalities to enforce no parking/no standing zones at bus stops and in bus lanes, as well as install traffic-calming measures to allow safe and pleasant access to public transit.

Yet, we must expect more than bus service. MBTA must evaluate its most heavily traveled bus routes to determine appropriate modes and when to upgrade appropriate routes to rail. For example, light rail on Washington Street through Dudley to Mattapan, or a new branch of the Orange Line subway under Washington Street and Dudley to Mattapan, would improve and expand service to many transit-dependent persons, increase ridership, and respond to rider needs.

Finally, there must be opportunities for meaningful input from those who ride public transit. All too often decisions on how to use transit funds are made by others, not by the persons who use the service.

Luberoff "fall[s] into the trap he condemns – an analysis...that focuses almost exclusively on air quality."

Stephen H. Burrington

Undersecretary, Office for Commonwealth Development, and former vice president and general counsel, Conservation Law Foundation

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In "Dug in," David Luberoff gets it half right. It's true that transportation strategy shouldn't center on a single public objective, be it improved air quality or reduced road congestion. But, without considering the range of goods that transportation investment can deliver, Luberoff leaps to a conclusion that public transit can be justified only to the extent it is "geared to providing mobility for those who most need it: the elderly, the disabled, and the poor." That's an erroneous conclusion – one that overlooks the fact that every great city and its transportation system depend heavily on public transit.

Luberoff is right to point out the danger of transportation planning being captured by narrow agendas. Two years ago, to ensure that transportation projects would be measured against the full range of relevant public objectives, the Romney administration proposed clear criteria for project evaluation that have subsequently been adopted in some form by all 13 Metropolitan Planning Organizations across the state. This year, Gov. Romney released a draft 20-year transportation plan that details the administration's thinking about the role of transportation in making Massachusetts an even better place to live, work, and do business. The Romney plan, for the first time in Massachusetts history, links transportation planning to an overall vision of sustainable development and great communities. It furthermore goes beyond policies and objectives to set out a statewide project agenda and a carefully worked out – and conservative – budget. A robust public participation process will take place in coming months and yield an improved final version of the plan. There can be no doubt that the Romney administration is committed to objective, data-driven transportation planning.

The administration has singled out for special scrutiny the projects whose value Luberoff questions. Led by the Office for Commonwealth Development, the Department of Environmental Protection and Executive Office of Transportation began a process in late 2004 to evaluate the three still-unbuilt transit projects that are tied to the Central Artery/Tunnel Project and required by the current Clean Air Act state implementation plan. The goal of the process is to consider these projects in the larger transportation and development context of today and to ensure that the public gets the best overall bang for its buck. Air quality is an integral factor in this analysis, but by no means the only factor.

Although he claims he is not "anti-transit," Luberoff's conception of the benefits of public transit falls woefully short. He indeed seems to fall into the trap he condemns – an analysis of transit improvements that focuses almost exclusively on air quality. He proceeds to the unsupported assertion that transit is a good investment only as a social service for special needs populations, and then only when it takes the form of buses, the least expensive mode. This sells transit short.

A dense, vibrant, well-functioning city requires public transit. Private automobiles cannot deliver enough people, at least without causing gridlock or – where the option exists, as in Phoenix – consuming vast amounts of land with automobile infrastructure and low development densities. Public transit and sidewalks sustain density.

Pressed on the question of whether transit serves the general public by supporting high-value land development and walkable cities and town centers, Luberoff cites buses, as opposed to rail transit, as the most cost-effective mode. But the issue is not whether rubber tires or steel wheels are best. The issue is whether transit vehicles will have their own space or be stuck in traffic. Put transit vehicles either in tunnels or in lanes from which general-purpose traffic is excluded. For transit vehicles to deliver lots of people efficiently, they can't be inching their way through gridlock on Kneeland Street.

A major reason greater Boston has accommodated so much growth in the urban core is the past expansion and improvement of the various MBTA modes. Boston-area business leaders frequently cite maintaining the quality of MBTA service as an important function of state government. The Boston urban core has enormous additional development potential, in locations such as the Seaport, Assembly Square, Allston, and Chelsea. Dense, high-value development – and a walkable urban environment – cannot be achieved in such places without quality transit.

In the concluding article of their recent series of *Boston Globe* op-eds, *Boston Unbound* authors Neal Peirce and Curtis Johnson conclude that one of the top three things the region can do to shape a prosperous future is “invest billions in transit.” They argue that a key to solving housing problems and “remagnetizing” cities and towns is transit connectivity. They share the Romney administration’s view that transit investments, housing production, and overall land-use strategy must be coordinated.

A current example of the role of transit in sustaining density is provided by the Boston-area life sciences industry. Consider the Longwood Medical Area (40,000 jobs and growing), our major research universities, and companies such as Genzyme, Novartis, and their smaller cousins. What do they all have in common? A need for efficient movement in and around the Urban Ring corridor.

Or take an example from further west – Worcester. Our second-largest city is about to become home to our largest private development project ever outside Boston and Cambridge, the \$500 million, 20-acre mixed-use CitySquare project adjacent to Union Station. Conceivable without the Commonwealth’s investment in Union Station and the restoration of rail service between Boston and Worcester? Hardly. (Restoration of service on the Worcester line was, it should be noted, a product of the Central Artery/Tunnel Project commitments Luberoff criticizes.)

Is transit sufficient to meet air quality goals? Nope. Is rail the only transit solution? No again. Can we afford to make every transit investment sought by every local constituency? No, a third time. But is transit critical to the future of the Commonwealth? Yes, indeed.

"A society in which individuals cannot eat, work, play, learn, or worship without owning a car is at serious risk."

Robin Chase

Loeb Fellow, Harvard University School of Design
Founder and former CEO, Zipcar

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David Luberoff's opinion piece speaks to the history and a narrow economic analysis of the proposed mass transit projects, missing the larger realities. What disturbs me most is the implication that investment in transit will have little valuable impact and is the wrong priority for the region's dollars. If we want to preserve regional economic stability, investment in reducing car (fossil-fuel) dependence should be of higher priority and merit greater investment than the transit projects under discussion. While the reasons to do so are many, here are my top three:

Global warming "[C]limate change is the single most important long-term issue that the planet faces," says Stephen Byers, member of the UK parliament who co-chairs an International Task Force on Climate Change with US Sen. Olympia Snowe. "An ecological time bomb is ticking away." While the majority of fossil-fuel consuming nations are hard at work trying to reduce their CO2 emissions, we here in America blithely perpetuate the status quo.

Escalating Fossil Fuel Prices & Depleting Oil Supply Fossil fuel reserves are widely believed to be at or near their apex. In April, Goldman Sachs released a report saying that it is likely crude oil prices will spike to \$105 a barrel. Massachusetts residents currently spend 17 percent of their disposable income on their private car and this percentage will clearly rise. We could free up some of this income for higher value expenditures such as food, shelter, and education by providing alternatives to a car-required life.

An Increasing Elderly Population Our baby-boom population is aging. We taxpayers can choose between paying to shuttle elders around to buy food, medicine, and visit the doctor, or else increase the supply of housing linked with walkable access to life-sustaining services.

Luberoff presents his estimate of transit costs per trip in a vacuum. What are the costs of the alternatives, in light of the above realities?

A society in which individuals cannot eat, work, play, learn, or worship without owning a car is at serious risk in the economic future I see. We need to reduce this risk through diversification – providing options that include investment in transit, and improved zoning and development that minimize distances between residence and retail.

We could be one of the few US cities and regions that will be less devastated by sky-rocketing oil prices or a sudden crack-down in CO2 emissions. We could build a city and a region that will have the competitive economic advantage brought about by foresight. Or we could gamble and hope Luberoff's future is the true one.

"A story bathed in irony"

Charles Chieppo

Former policy director, state Executive Office of Administration & Finance, and former director, Shamie Center for Restructuring Government, Pioneer Institute for Public Policy Research

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For 15 years, everyone who has followed the sad saga of the Central Artery transit mitigation requirements has known the cost-benefit behind requiring construction of 14 new transit projects to achieve air quality goals was wildly out of whack. Put simply, building mass transit is the most expensive way to get the fewest air quality benefits.

David Luberoff should be hailed for laying out the facts behind this fascinating issue in such a clear, compelling manner. Instead, he will undoubtedly be skewered for it.

Luberoff does a masterful job of describing how politics and the clock running out on the Dukakis administration combined to saddle 20 years of future Legislatures (and taxpayers) with a costly set of unfunded mandates that accomplish few if any of the stated goals advanced by their proponents. Dukakis administration officials knew that the environmental analysis indicating that the Big Dig would have a mildly positive environmental impact assumed that only six – not 14 – new transit projects would be built. Not even that analysis told us *how* the six projects would produce any improvement in air quality.

But that was all the Dukakis administration had at the time. Although at least Transportation Secretary Fred Salvucci didn't want to require all 14 projects (perhaps Environmental Affairs Secretary John DeVillars did), they also knew a Republican governor who had campaigned on cutting taxes was about to take over in the midst of an historic fiscal crisis, and transit could be a target for cuts. This dynamic created an opportunity for the Conservation Law Foundation – and they took full advantage of it.

Much as the historic civil rights cases of the 1960s were hung on the Commerce Clause even though that wasn't what they were really about, the story of the transit mitigation requirements played out in terms of the Clean Air Act, even though a much larger vision was at play. It was all about using the allocation of public funds to force people to live and commute a certain way. Unlike the civil rights cases, however, here the ends didn't justify the means.

As Luberoff so skillfully points out, scholars had been making the case that transit expansion is not an efficient way to improve air quality since the 1970s. Research done for CLF itself in 1992 confirmed it. But this one was not to be decided on the facts. Fast-forward 15 years and air quality has improved – thanks to a series of far less expensive technological enhancements, not new transit lines.

The new transit lines have had an impact – not all of it bad, I might add. But after more than a decade of being by far the fastest growing mass transit system in the country, the MBTA lies in ruins. As a result of the numerous capital projects, one-third of the MBTA's operating budget pays for debt service. Since debt takes up such a large chunk of the budget, it should be no surprise that the T's revenue recovery rate – the portion of overall costs covered by revenue from fares, advertising, etc. – is below 30 percent, the lowest of any major transit system in the country.

And debt is not the only problem. With revenue recovery so low, each new line has worsened the system's financial – and physical – condition. For years, funds devoted to mandated expansion requirements have left too little for maintenance needs, and the T has steadily slipped further away from a state of good repair.

Finally, since the majority of mitigation requirements were commuter rail lines to the suburbs, the core system has seen little investment other than the branches of the Silver line. Thousands of poor and working-class citizens are still forced to rely on a 19th century hub-and-spoke subway system when many of the 21st century jobs they need access to are not in downtown Boston.

In short, when history writes the definitive story of the mitigation requirements, it will be a story bathed in irony. It will be a story of how a relatively small group of transit advocates brought the oldest and one of the most widely used transit systems in the country to its knees, burying it under an avalanche of unfunded mandates.

"The easiest environmental fix of all: making roads better and safer for bicyclists"

Dorie Clark

Executive Director, MassBike
www.massbike.org

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David Luberoff's contention that the Big Dig transit mitigations are a boondoggle, sucking down precious dollars for a negligible increase in ridership and environmental benefits, raises an important point for Commonwealth bicyclists. He correctly highlights the enormous impact that small changes — more buses, better vehicle emissions testing — can make for the environment. That logic extends to the benefits of commuting by bicycle.

MassBike, the statewide bicycling education and advocacy group, supports mass transit, but generally remains neutral on specific projects unless they have a direct impact on bicycling. The restoration of trolley service on the Arborway stands out as a contentious point in the bicycling community. Some propound the value of light rail as a way of getting cars off the road; others are rankled by the dangerous, unused tracks on Centre Street, which can trap bicyclists' wheels and make them lose control. No matter what transit solution is adopted for the Arborway, MassBike believes it is essential that the design support the safety of cyclists.

While Luberoff raises some useful points, however, he fails to take into account perhaps the easiest environmental fix of all: making roads better and safer for bicyclists. The Worldwatch Institute estimates that for every four-mile roundtrip made by bicycle instead of driving, 15 pounds of pollutants are kept out of the air. That adds up quickly, and the state can get a powerful bang for its buck by encouraging residents to get out of their cars — even once a week — and pedal to work instead.

Bicycles, a popular 19th century innovation, experienced a boom in the 1970s. But despite recent sticker shock at the pump, gas prices have been stable enough to spawn a generation of SUV drivers clocking 25, 50, or even 100 mile commutes each day. Bicycling is slowly reclaiming a place as a method of getting to work — thanks in part to our culture's realization of its obesity problem — and the number of Massachusetts residents who commute to work by bicycle increased 38 percent between 1990 and 2000. Despite that progress, bicycle commuters still represent less than 1 percent of those making the morning slog.

Luberoff's ideas about cracking down on emissions testing and his points about fuel efficiency are terrific, but they don't get at the root problem, which is the presumption in most parts of the state that your means of transportation is a car. Transit-oriented development, a concept embraced by the Romney administration, supports the notion that communities are more successful and vibrant if they are both bikeable and walkable. As Carnegie Mellon professor Richard Florida pointed out in his influential book *The Rise of the Creative Class*, highly skilled workers are disproportionately drawn to communities with access to good bicycling.

The Bay State's shortage of bicycle accommodations has never been entirely about money. We can certainly think of great bicycle projects if someone handed us a lot of cash: bicycle stations, replete with showers and a café, like those in Chicago; more trails; bicycle coordinators for every city. But there is a lot that can be done to improve cycling without much capital. Roads can be restriped to include lane sharing width in the outside lane, where appropriate — something the city and state should especially consider for the new surface roadways emerging as part of the Big Dig. Bike racks can be acquired for free by cities as part of "street furniture" contracts. Even one of our big goals — getting bike racks on every MBTA bus — is 95 percent reimbursable by the federal government.

Despite the fact that MassBike helped pass a 1996 law requiring bicycle and pedestrian accommodations on all new roadway projects, it hasn't always happened. In many ways, it's more a question of worldview and political will — whether bicycles are seen as nice toys for kids, or as viable commuting options that can

benefit both the environment and public health — and, it increasingly appears, help nurture a prosperous local community and economy.

The Bay State is slowly getting better about bicycles. MassBike has been working with MassHighway for the past two years to develop a new Highway Design Guide, which had previously not been updated since the 1960s. The state has pledged that the new version will be more bicycle and pedestrian-friendly — a promise that will pay dividends for generations, as new roads are built right the first time.

There's no question, as Luberoff suggests, that Massachusetts can get a huge environmental payoff from little things. But if we're going to make long-lasting change in our communities, we need to look beyond car emissions tests or even a bigger bus fleet, and make our roads safe for all users.

"Cleaner air is just one of the benefits of extending the Green Line."

Joseph Curtatone

Mayor of Somerville

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David Luberoff makes an exhaustive – if you'll excuse the pun – argument for why reducing auto emissions is a more cost-effective way for the state to improve air quality than extending the Green Line through Somerville to Medford.

Believe me, we in Somerville support clean car initiatives. On any given day, more than a half a million automobiles pass through Somerville on I-93, the McGrath Highway, Route 16, and other major thoroughways, making Somerville's air some of the dirtiest in the region. So we certainly support enhanced emissions standards. And we'll even concede – for the sake of argument – that such an approach could be a cheaper way to reduce air pollution, although we challenge some of Luberoff's assumptions about the benefits of the extension. For instance, he predicts Somerville and Medford Green Line stops will generate fewer than 6,000 riders; this week the MBTA will release new figures projecting an increase of as many 14,000 riders per day, reducing the number of car trips per day by 13,000.

The best way to reduce air pollution is to pursue *both* tougher emissions standards and expanded public transportation. But Luberoff argues the state can't afford the best solution, just the most economical one. I can sympathize with his concern about state finances but we in Somerville would argue his assessment is a shortsighted way to assess costs and benefits.

If Luberoff were to take a helicopter ride over the East Cambridge-East Somerville area today, he would see a swath of grossly underutilized real estate, stretching from the train yards near Lechmere station through the abandoned industrial sites of East Somerville and Assembly Square. This undervalued land mass has enormous potential. It is less than three miles from downtown Boston and less than two miles from MIT. It borders a major interstate highway and is just 10 to 15 minutes from Logan Airport.

Two simple, relatively inexpensive investments would unlock this value and help transform the area: the extension of the Green Line and the addition of an Orange Line station at Assembly Square.

The Orange Line station is a true no-brainer – the tracks already pass through Assembly Square, which means the only cost is adding a station, estimated at about \$20 million. The Green Line extension is also relatively inexpensive, since no new tracks or rights of way are needed. It's simply a matter of updating the lines and adding stations – actually more of a "restoration" project than an expansion.

We know today's knowledge-based companies locate in urban areas because of their proximity to universities, creative workers, and ready capital. Some of the world's largest pharmaceutical and biotech companies – Genzyme and Millennium – have invested in Cambridge. But much of Cambridge is already substantially built-out and, as a consequence, expensive.

In the next millennium, we in the Boston area will live or die by our ability to attract those companies. To paraphrase a famous former Boston Celtics coach, heavy manufacturing and traditional companies are not walking back through our doors any time soon. But the *future* – the life sciences, communications technologies, and creative services such as design and advertising – can land here, if we plan for it. The Green Line extension is critical to building that future because public transportation is part of the creative economy equation: You can't locate your company in an urban area, near universities and educated, young workers, without high-quality public transportation nearby.

The area stretching from the new North Point development in Cambridge and Somerville, across East

Somerville, to Assembly Square could soon be home to those companies. But it won't work without the Green Line extension and the Orange Line station. We in Somerville – more than most – are keenly aware of what public transit can do for the local economy. When the Davis Square Red Line station opened in the 1980's, the area went from boarded-up to booming in just a decade.

We truly believe we can transform Union Square, East Somerville, and Assembly Square into one of the Boston area's most important economic engines – if we get public transit. The extension of the Green Line gives us the chance to leverage a public good – transportation investment – to jumpstart private investment and create an overall community benefit. In other words, we believe the extension will generate substantial economic *benefit* at relatively *little cost*. Which is why cleaner air is just one of the benefits of extending the Green Line.

"Greater Boston is all the greater as a consequence of the mass transit improvements associated with the Big Dig."

John P. DeVillars

Former Secretary of Environmental Affairs

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David Luberoff is looking for someone involved in advancing some \$2 billion in mass transit commitments as a condition of the 1991 environmental approvals for the Central Artery/Third Harbor Tunnel project to say, "We were wrong."

OK, you got us. We were wrong.

But our error was not, as Luberoff suggests, because we went so far, but rather because we did not go far enough. A piddling 14 mass transit projects – only six of which were actually made legally binding – was a robust but insufficient agenda. In hindsight, it is clear that we could have done more. Fall River-New Bedford commuter rail, more and cleaner buses sooner, enhanced service and maintenance commitments, real penalties for delay in launching the required projects – all would have been good places to go further. So in that sense, yes, we were wrong.

Luberoff argues that expansion of mass transit is not the most cost-effective way to achieve cleaner air. Here, he makes a strong case. While both logic and experience tell us that more mass transit options for commuters and others will lead to fewer cars, less congestion, and thus cleaner air than would otherwise be the case, it is true that mass transit expansion is not as cost-effective as many other clean air initiatives. Mass transit is an important piece but only one piece of the clean air puzzle.

As Luberoff effectively documents, many other mobile-source efforts of the last decade – auto emissions inspections, vapor recovery at gas pumps, national standards for cleaner engines and gasoline among them – have had more significant and sustainable impact than expanded transit. More efforts like these, while politically difficult (witness the recent overwhelming vote in the US House of Representatives against modest increases in fuel efficiency for cars), would no doubt achieve greater air quality benefits than the mass transit options on the table today.

On this point Luberoff is correct. But the limitations of his argument are not with the picture he paints but rather the narrowness of his lens. There are many reasons Gov. Dukakis and his advisors advanced and locked in an ambitious mass transit investment agenda in January 1991. Improved air quality was one of them and represented the strongest legal hook, but the rationale and purpose was far broader.

Look to Worcester and Newburyport for the evidence as to why. The benefit of expanded rail service to these communities is evidenced by less crowded roads and cleaner air than we would have without the new train service brought about as a condition of the CA/T mitigation requirements. But it is measured in many other ways as well – in the renewed economic vitality of their downtowns, in good paying jobs, rising real estate values, greater commerce, more transportation options for those who live and work there. The planned – and legally required – expansion of the Green Line to West Medford offers the promise of a similar renaissance for Somerville's Union and Assembly Squares.

Part of what makes Greater Boston great is a first-rate public transit system. Greater Boston is all the greater as a consequence of the mass transit improvements associated with the Big Dig.

For more than 50 years, society's investments in highways, cloverleaves, and macadam fueled economic growth. The sprawling consequences of the resulting development footprint taught us a lot about what

constitutes poor transportation planning and investment. The public transit investment agenda for the Commonwealth is now teaching us something about what constitutes smart public investment.

Not all the projects required in 1991 were the right ones. Nearly 15 years later, some that were included seem to be less important today and some that did not make the original list, in retrospect, should have. But for reasons that go far beyond improvements in air quality and mobility, however modest, the projects stand the test of time. Let's make some adjustments to reflect changed circumstances, but let's also get on with the work necessary to complete the vision and with it to enhance our quality of life.

"Like all public investments, [transit projects] appear expensive at the beginning, but benefits are reaped over the long term."

Marc Draisen

Executive Director, Metropolitan Area Planning Council

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We are currently debating whether the state should fulfill the public transit commitments made in 1990 when agreement was reached regarding the rebuilding of the Central Artery. These commitments were made to mitigate the additional pollution that increased travel on the new artery was expected to generate.

Ever since then, the debate over the transit commitments has been artificially focused on the issue of air quality, mainly because any legal action designed to force fulfillment of the commitments is likely to focus on air quality benefits.

But what happens in court does not always mirror real life – and in real life the transit commitments are important for reasons that go far beyond air quality. The state should meet its transit commitments not only because of air quality benefits, but also because they will improve the overall quality of life in local communities and in the region as a whole.

Let's consider all the projects built since Gov. Frank Sargent set our sights on improved mass transit, a commitment reaffirmed by every governor since, Democrat and Republican alike. Whether it's the relocated Orange Line, the Red Line extension to Alewife, or a variety of commuter rail extensions, the cars are full. So many people want to take the train that the MBTA is hard-pressed to build enough parking spaces to accommodate all of them.

With rare exceptions, the rule of thumb for Greater Boston transit has been, "Build it, and they will come." Now, that doesn't mean the trains are full at every hour of every day, but neither are the highways. The new lines are full of commuters during morning and afternoon rush hours. In many places they are filled with tourists from spring through fall. And they always provide a way to get around for people who don't have car – the low-income – or people who can't drive – youngsters, the very old, and people with certain disabilities.

More importantly, look outside the cars and beyond the stations. I remember the old Orange Line. What a chore it was to get up in the morning and ride that old clunker to work! Forest Hills Station – then, as now, the terminus of the line – was a dark and dirty place back in the 1970s, filled with more pigeons than people. The "El" used to tip so far to one side at the entrance to Dudley Station that people literally moved to the other side of the train, fearing the whole thing might come off the tracks and crash onto the street below!

Today riding the Orange Line is a pleasure. For the most part, the stations and cars are clean and safe. The trains run frequently and on-time. The shadows and noise of the old elevated railway are gone from Washington Street, where businesses now flourish. The escalators and elevators, despite ongoing difficulties, are nonetheless a huge improvement. And the park along the line is filled with people bicycling to work and school.

But the revitalization of neighborhoods along the Orange Line is the real miracle. Abandoned stores are filled with workers and shoppers. Housing has been refurbished and people are moving in. Tax yields are up and crime is down. The same is true along the extended Red Line and in town centers near many commuter rail stations – wherever towns have been wise enough to zone for dense development.

Improvements to the T can't claim credit for all this revitalization, but they certainly were a catalyst. It's hard to imagine the same level of renewal if Gov. Sargent had gone for the cheap alternative and run a few dozen

more buses down Washington Street in Jamaica Plain or Fresh Pond Parkway in Cambridge.

Transit investments make a statement about a city. They say, "We're here, we're staying, and we're going to make this neighborhood a great place to live and work." The optimism and convenience that transit generates can attract homeowners, businesses, and jobs. They help to ensure a community where all are welcome, not just people rich enough or healthy enough to drive cars. Like all long-term public investments – from schools to hospitals to sewage treatment plants – they appear expensive at the beginning, but benefits are reaped over the long term. And like all such investments, we cannot afford to do them all, so we must choose carefully.

I agree with Luberoff that transit commitments made 20 years ago should be re-evaluated in light of current realities. But they should be re-evaluated only to determine the best current options for real transit improvements – not to substitute nothing for something. Lack of money is not a good enough reason for the Commonwealth to renege on its commitments. Somehow, as the cost of the Big Dig rose ever higher, we always found the money to keep the project going. The same level of commitment should be made for transit, even if modifications or substitutions are prudent.

I also agree with Luberoff that it is penny-wise and pound-foolish for the MBTA to cut cost-effective bus service to the suburbs. There are today many communities outside the city of Boston where the density of jobs and residents is high enough to warrant some type of bus-oriented transit. Also, he is correct to point out that bus lanes and traffic priority signals in urban areas would create "bus rapid transit," which has many of the advantages of more expensive fixed-route systems.

Surely, the bus has a role to play in the expansion of future transit service – but we should not pretend it is a panacea just because it is the cheaper option. Buses will attract some riders, but they will discourage others from taking transit at all. Over-dependence on buses will clog our streets and add to pollution.

And that brings me back to where I began, with air quality. Luberoff is right to say that air quality has improved in recent years, and there are many causes for this trend. Transit has helped. Transit is not the sole cause of cleaner air in America, but it is also unfair to shelve useful transit expansions unless they achieve dramatic air quality results, as though they have no other benefits.

Over the next several decades, we will need many tools to keep air quality at its current level, or to improve it further. The number of registered vehicles in Greater Boston rose 26 percent during the 1990s, 10 times the number of new drivers who became eligible during the same time period. Meanwhile, the average daily commute in Massachusetts is 27 percent longer today than it was in 1980. These facts call out for many and varied solutions. More and better transit is one of those solutions – and a pathway to better neighborhoods, too.

Three principles for transportation policy: "convenience, efficiency, and liberty"

Thomas M. Keane Jr.

Columnist and former Boston City Councillor
General partner, Murphy & Partners, a private equity firm

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David Luberoff would likely feel simpatico with economist Steven Levitt. Levitt, along with journalist Stephen Hubner, is the author of *Freakonomics*, the latest in a series of recent books (think *Blur* or *The Tipping Point*) that look at the world from an unordinary perspective and come up with some startling conclusions. In Levitt and Hubner's book, the novelty involves asking the unasked questions and using data to challenge conventional wisdom. In his piece, Luberoff takes on the Big Dig and does exactly the same thing.

We all know, of course, that public transit is good and automobiles are bad. We all know as well that subways and trains are environmentally green while cars are Mother Nature's enemy. With those certainties in mind, Luberoff describes how environmentalists – spearheaded by the powerhouse Conservation Law Foundation – were able to force a grand quid pro quo. In 1990 and 1991, just as the Big Dig was getting approved, they conditioned their support (which is to say, their agreement not to engage in the kind of harassing and protracted litigation that opponents of most anything have found can stop all but the most committed) in exchange for an agreement to build 14 public transit properties.

The Big Dig is finished (well, almost...). Of the 14 projects, however, many have yet to be built. Luberoff's essential point is that, at least when assessed on environmental grounds, they shouldn't be.

And why not? For three related reasons. First, the environmental benefits of the projects are small. Second, there are other, vastly more efficient means for directly reducing emissions from automobiles. Third, the public money could better be spent elsewhere, on other projects, on expanded bus systems, even on – horrors! – more roadways, all with far greater utility.

Against this, one supposes, is the counterargument that "a deal's a deal." It has a weak-kneed feel to it, yet there's some merit to the argument. Most litigation over public projects gets resolved through a series of compromises. Cutting those deals requires some sense of certainty on the part of the litigants that the deal will be upheld. Otherwise, agreements won't be made and projects won't move forward. Litigants instead will hold on to the bitter end, fighting until they either win or lose.

Consequently, as Luberoff recognizes, changing the deal cut back then requires, at some level, the participation and consent of those who were parties to the original agreement.

Clearly, however, that consent should be given.

Luberoff's piece is about more than just a few unbuilt mass transit projects, however. It grapples with the entire rationale for public transit. Data from a variety of sources now suggests that – at least from an environmental perspective – mass transit does little to reduce or offset auto pollution. Moreover, the positive improvement it does produce comes at a stunningly high cost. For example, three projects currently under consideration (extending the Green Line to Medford, connecting the Red and Blue lines at Charles Street, and restoring the Arborway trolley service) cost a total of \$621 million. According to Luberoff, that works out to a cost of \$2.7 million a ton for reductions in volatile organic compounds (VOCs) and \$1.3 million a ton for reductions in nitrogen oxide (NOx). The equivalent effect, he points out, could be had by persuading 200 people to switch from conventional cars to Toyota Priuses.

The same analysis applies to congestion. Public transit projects actually get relatively few cars off the road. In the case of the three projects above, perhaps 6,490 people will switch from their cars to mass transit – a trivial number, Luberoff notes, when compared to the 1.8 million in the region who now drive.

So if environmental benefits don't justify public transit, what then is its rationale? Or, more broadly, what are the principles that should guide transportation planning? I would suggest three: convenience, efficiency, and liberty.

The first two values are commonly understood. People need to be able to get around. In a world where jobs are no longer lifetime events but rather are held for a matter of just years if not months, one can no longer easily plan to live close by one's place of employment. A good transit policy should endeavor to make getting from A to B as easy and as quick as possible. Those values often justify mass transit, since central cities would find their economic strength withering if they could not efficiently move people around. The same values also argue in favor of projects such as the Urban Ring.

The third value is rarely noted, however. Yet the notion of liberty – being able to live and travel where and when we want – is fundamental to the character of American society. The automobile, in particular, brought that liberty to the masses. Some of the consequences of that – sprawl, for example – are unpleasant. Yet the benefits to individuals in terms of their ability to dictate the circumstances of their own lives are profound and important.

Not everyone agrees, however. Indeed, one doesn't have to peer very hard to find many who discount that value entirely; arguments in favor of mass transit are often barely disguised diatribes against the automobile. It is for that reason, I suppose, that I read Luberoff's illuminating piece with some relish. One wonders if the mistakes in the environmental arguments made in the early 1990s were a consequence of more than just poor data or weak analysis. Perhaps they were charades, covers for an agenda that simply dislikes suburbia and the automobile. If so, Luberoff has now ripped off the veil.

"Without additional investments..., there is simply not enough room on the transit system to absorb added urban growth."

Fred Salvucci

Senior lecturer and researcher, Center for Transportation and Logistics, MIT
Former Secretary of Transportation

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David Luberoff's piece suggesting the state formally renege on its 1990 environmental commitments to maintain transit investment as part of the Big Dig simultaneously distorts and ignores history. His advice, if followed, poses a threat to our economic future, as well as the urban environment.

Luberoff's position rests on the argument that direct emission controls on the automobile are a more cost-effective way to improve air quality than improved public transportation. There is no question that improved auto technology is essential to improving air quality, but none of the supporters of honoring the 1990 agreement propose improved public transportation as a *substitute* for improving vehicle standards, but as a necessary *complement*. Major improvements in vehicle technology are continually undermined by increased auto travel, so that air quality continues to fail to meet public health standards. Shifting to a less auto-dependent transportation system and avoiding gridlock on the road system were in 1990, and continue to be today, important elements in attaining and retaining acceptable air quality standards. Avoiding gridlock, which was at the heart of the 1990 agreement, is also of fundamental importance to our economy and quality of life. The parking controls, affordable transit fares policy, and transit capacity expansion projects committed to in the 1990 agreement are essential to avoid a quick return of auto gridlock.

The basis for the agreement between the Commonwealth and CLF was a deeply felt concern in the environmental community that, while the Big Dig might reduce the congestion and environmental impact predicted to occur with the narrow elevated highway, the very presence of a substantial increase in highway capacity in the core would itself lead to more auto-oriented development and loss of focus on public transport, causing increased vehicle miles and vehicle hours of auto traffic, and a return to gridlock with no practical solution. CLF argued that vehicle hours of travel would increase dramatically, wasting time, degrading air quality and pedestrian conditions, and undermining the smart growth paradigm previously instituted by governors Sargent and Dukakis. CLF correctly pointed out that the computer projections prepared for the Big Dig, which predicted that the Big Dig would improve air quality, relied on continuation of the pro-transit policies, and that the document was flawed if the pro-transit assumptions of the Environmental Impact Statement were not ensured. CLF proposed to sue, seeking court-ordered guarantees for the transit elements.

To remind readers of the context of the 1980s, the Reagan administration had abused the environmental process to cause delay and cost increases to the Big Dig project, which they did not wish to fund. The Federal Interstate Highway 90 percent federal funds, which had been available to every other state, were about to come to an end, substantially worsening the financial terms available to Massachusetts, if we couldn't conclude the 6.5 year "supplemental" environmental process and start construction.

I proceeded to negotiate an agreement with CLF that declared the state was actually committed to doing what the environmental documents said (not, in my view, a particularly radical notion). In exchange for this commitment, CLF agreed not to sue and to support the project. CLF was not acting on its own, but advocating a set of principles built over a two-year period by a broad range of environmental groups, on an agenda that was subsequently required in the environmental approval by Secretary of Environmental Affairs DeVillars. Prior to signing the agreement, I consulted with the incoming Weld administration, including the chairman of his transportation committee, and Lt. Gov.-elect Cellucci. The agreement was later recommitted to twice during the Weld administration, and revised and strengthened in a consent decree during the

Cellucci administration. The strategy worked, in terms of allowing the Big Dig to proceed without further delay.

Now that the project is substantially complete, Luberoff argues that the state should walk away from its part of the bargain, in a sort of *ex post facto* "bait and switch." Stop and think about this for a moment. If the state walks away from the deal, why will anyone ever trust agreements in the future? From a purely pragmatic point of view, Luberoff's proposal leads to a breakdown of comity. It will serve to convince environmental groups that only litigation followed by a court order can ensure that the government honors agreements. It is difficult enough now to get any project built. By undermining confidence in the public process, Luberoff's proposal would make it likely that future infrastructure projects, such as wind farm power plants or affordable housing, will be mired in a much more litigious environment, causing delay or outright cancellation of projects.

Aside from the ethical and pragmatic questions of Luberoff's proposal, let's review the merits of the concerns raised by the environmental community and CLF in the late 1980s. They were concerned that the euphoria over temporary relief of roadway gridlock would lead to a lessening of transit investment and of support for operating budgets, that the cost of the Big Dig would absorb so much of available resources that it would be difficult to fund transit, and that when the resultant auto-dominated pattern restored gridlock, there would be no way out. In fact, during the 1990s, the Weld and Cellucci administrations deferred further new transit initiatives, capped support for MBTA operating budgets, and raised transit fares beyond the limits agreed to in the CLF agreements, imposing transit austerity while billions of dollars in tunnels, viaducts, and ramps were added to the Big Dig.

Environmentalist concerns were then proven correct: The world's largest highway project would lead to more cars if there was not a commitment to a balance between autos and mass transit. Auto utilization is up dramatically above what was projected in the Big Dig environmental process, and much of the transit system is operating at crush loads. Without additional investments like the Silver Line and Blue-to-Red connector and Green Line extension to Somerville, there is simply not enough room on the transit system to absorb added urban growth. Advocating further cutbacks in mass transit investment now calls to mind the story of the teenager who murders his parents and then seeks the mercy of the court because he's an orphan. If auto-oriented growth continues, we *will* end up once again with gridlock in access to the city and airport, with no way out of the mess.

The issue we ought to be discussing is what transit investments *beyond* the CLF agenda should be implemented. After all, the CLF agenda was supposed to be complete by 2000. The legitimate question for 2005 is, in addition to honoring the 1990 agreement, what transit investments are required to support continued growth without gridlock for the Boston metropolitan area, and to maintain the broad principle of the agreement, a commitment to a balance between autos and transit. A new study reviewing actual automobile use should be prepared. It certainly will show that auto use has grown to a much greater degree than estimated in the 1990 environmental document, and that the return of gridlock is closer at hand than expected.

Luberoff falls into the trap of accepting the fiscal constraints of years of excessive spending on highways combined with tax cutting and disinvestment, forcing us to choose between limited and unacceptable options, in addition to taking a very limited view of costs and benefits. Pitting the Green Line extension against the Blue Line extension against the Urban Ring is a recipe for political gridlock and nothing happening. If not reversed, the current trends will lead to substantially degraded air quality as the number of vehicle hours stuck in traffic grows – why not weigh hours lost in traffic, and the cost to commuters of automobiles, gas, and insurance as part of the cost of *not* investing in transit?

More fundamentally, the Luberoff approach would cause an economic bottleneck. Does anyone really believe that the Longwood Medical Area will continue to add jobs to the Boston economy if we do nothing to improve access? The most robust part of our economy lies along the route of the Urban Ring, which has been under discussion since at least 1970. How will our transportation officials negotiate the funding to provide this access, essential to economic growth, if people cannot trust government to keep its word? Luberoff's proposal is a recipe for gridlock on multiple levels, and *CommonWealth* has done a major disservice by publishing his opinion without presenting alternative views in equally accessible forums.

Unused tracks "pose a significant threat to public safety"

John M. Tobin Jr.

Boston City Councillor

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Luberoff's commentary is an insightful and in-depth examination of the state's commitment to rebuilding and repairing several mass transit projects, including the Green Line's Arborway Line in Jamaica Plain. I appreciate his thoughtful analysis.

As the Boston City Councillor for District 6, which includes the communities of Jamaica Plain and West Roxbury, I have supported trolley restoration along the Arborway Line. I believe that the state should fulfill its promise to the neighborhood by installing the light rail vehicles connecting Jamaica Plain and downtown Boston. However, before the restoration of the Arborway Line takes place, the plans must meet public safety standards and they must gain the approval of the Jamaica Plain business community. Public safety is paramount. Addressing the concerns of local business owners should also top the priority list.

As the battle between the MBTA and the state goes on, and with the filing of a lawsuit in January by the Conservation Law Foundation, it appears that the issue will not be resolved anytime soon. And, as the future of the Arborway Line is debated and litigated, the residents of Jamaica Plain are left to watch the neighborhood's major thoroughfare continue to crumble.

As we await the outcome, I am urging officials at the MBTA and the state to address an immediate and growing problem with the condition of the existing trolley tracks that stretch between South Huntington Avenue and the Forest Hills MBTA Station, slicing through the center of the neighborhood's business district.

The MBTA ceased operation of the trolleys on South and Centre streets in 1985. However, 20 years later the tracks that remain imbedded in the street have fallen into disrepair, creating hazardous conditions for motorists, bicyclists and pedestrians. The tracks pose a significant threat to public safety. When they are wet with rain or snow they are slippery and dangerous and extremely difficult for drivers to navigate. In extreme cold temperatures, they freeze and ice over. In recent weeks, we have seen an increase in potholes along the edges of the tracks, creating large, perilous craters. With the spring warm-up upon us, this situation worsens daily.

I recently contacted the Massachusetts Highway Department and the MBTA and urged both agencies to remove the abandoned trolley tracks in Jamaica Plain and repair the roadway. Another possibility is to pave over the tracks as we have seen done on sections of South Huntington Avenue and Centre Street.

It is my understanding that the original tracks cannot be used again and will have to be replaced when the MBTA gets the trolley restoration plans underway. In the meantime, I strongly urge the MBTA and the Massachusetts Highway Department to work together to make the road safe for travel.

A "technocratic, cynical view of public transportation"

Phil Warburg

President, Conservation Law Foundation
www.clf.org

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Subways and trolleys are the backbone of great cities. From Paris to London, Tokyo to Shanghai, public transit is what makes world-class cities fantastic places to live, work, and visit. Public transportation means equity, access, and mobility. In fact, most people who use the world's great public transit systems are bound to say they are priceless.

But not David Luberoff. His technocratic, cynical view of public transportation is based entirely on dollar amounts and units of air pollution. Through this haze of graphs and numbers, he misses the point of public transit entirely.

A clean, efficient, equitably distributed transit system has long been a signature of the Boston area, but Luberoff is quick to dismiss the value of transit. This academic think-tank analyst takes an extremely narrow view of the costs and benefits of improved transit, failing utterly to create the linkage between reliable, accessible transit and urban revitalization.

The centrality of transit as an economic revitalization catalyst has been shown again and again in urban areas newly served by transit. Somerville's Davis Square is but one example, where Red Line rapid transit access has transformed a sleepy, rundown community into one of Boston's most sought-after neighborhoods. Paradoxically, the challenge in such areas is how to keep housing affordable so that longstanding local residents can remain.

A revitalized Boston, catalyzed in no small part by improved transit, will translate into reduced urban flight. Reduced urban flight means lower car dependence. Lower car dependence means reduced air pollution throughout the Boston metropolitan area. By looking only at the projected numbers of car commuters switching to new transit lines, Luberoff misses this bigger picture entirely. In doing so, he fails to reflect the true air quality benefits that would come from the Commonwealth honoring its commitments to strengthen Boston's transit system. It bears reminding that these transit commitments were legally enshrined in state law, under the federal Clean Air Act, in the Big Dig permits, and in subsequent negotiated agreements.

If projecting the economic and mobility gains from new transit investments seems conjectural, I suggest that Luberoff spend a bit of his analytical acumen looking at what would happen if our existing transit infrastructure were removed or substantially reduced. What would Boston be like if the 792,600 people who take the T every day were to rely on their cars to work instead (assuming, of course, that they could afford to do so)? The traffic snarls would grind downtown Boston to a halt. Businesses would flee to the suburbs or out of the Boston metropolitan area entirely, and those residents who could afford to do so would follow.

Or what would it be like if 39,000 or so Red Sox fans drove their cars to Fenway Park on a weekday evening or afternoon instead of taking the T, as so many of them do today? Gridlock traffic would paralyze the city for hours before and after the game. The Red Sox owners, already wavering on keeping Fenway Park in its historic location, would beat a trail to the suburbs just as fast as construction would allow.

Short of imagining a Boston without transit, we can get a sense of the benefits of enhanced transit by looking at the very numbers of added transit riders that Luberoff disparagingly presents. He claims, for example, that the Green Line's extension to Medford Hillside would cause 3,540 people to "switch from using their cars on weekdays to improved transit service." This number, it should be noted, doesn't include the many bus riders who today must make multiple switches on crowded urban streets to travel just a few slow miles to work or other destinations. But even that number is momentous. I suggest to Luberoff that, the next time he's mired in traffic on Storrow Drive, the McGrath Highway, or the new Central Artery, he try counting the cars around him. Very often it's hundreds, not thousands, of cars that make all the difference

between free-flowing traffic and hopeless gridlock. Is it worth \$18 a day in debt service for each new rider on the Green Line extension or \$10 per day for each new commuter using the Red-Blue Connector near Mass. General Hospital? You bet it is!

And what of Luberoff's assertion that "few corridors without rail are dense enough to attract significant numbers of new transit riders"? Somerville, with 19,715 people per square mile, is one of the most densely populated communities in the nation. Today it is served by a single mass transit stop – in Davis Square. Is Luberoff arguing that the rest of that city lacks sufficient density to support rail transit?

Beyond immediate gains in ridership, mass transit is a high-value long-term investment. Major elements of today's T have been in place more than a century, benefiting multiple generations of residents, commuters, and visitors. Investment in transit infrastructure yields air quality, mobility, and equitable-access benefits that far outlast and overshadow any short-term air quality gains from Luberoff's proposed replacement of a few hundred older polluting cars. Indeed, investment in mass transit is needed to provide high level service on the Central Artery itself. By providing service to those who prefer transit as well as those who are transit dependent, we can continue to keep our highways free flowing and allow easy movement of commerce.

When assessing costs and benefits of new transit projects, we would be well advised to calculate the price we continue to pay for neglecting the Commonwealth's transit commitments. That price includes lost economic development opportunities, poorly planned sprawl development, consumption of open space, longer commutes on our highways, degraded health, increased air pollution, and poorer quality of life. We cannot afford to neglect the transit commitments any longer.

"The state cannot afford T expansion projects without sacrificing other capital investments."

Michael J. Widmer

President, Massachusetts Taxpayers Foundation

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Send your own comment to:
editor@massinc.org

We at the Massachusetts Taxpayers Foundation applaud David Luberoff for his thoughtful and thought-provoking look at the air quality and congestion benefits of mass transit. All too often the clear-minded analysis of facts needed to help determine our transportation priorities is clouded by ideology and zealous advocacy.

There are other reasons to invest in transit besides its impact on pollution and traffic, however. Public transportation is a critical underpinning of the Massachusetts economy — 60 percent of workers in downtown Boston use the T — and judicious investments in transit can help to spur job growth. The proposed Urban Ring transit line, for example, will greatly improve access to the Longwood Medical Area in Boston, where inadequate transportation threatens to choke off growth in health care and biotech jobs. As Luberoff points out, public transportation provides access to jobs, education, medical care, and other activities for low-income, elderly, and disabled residents, many dependent on transit as their sole source of mobility.

Transit expansions can enable the existing system to function more effectively. For instance, the Urban Ring would stave off gridlock on the downtown subway system, which is already operating at or above capacity during peak travel times. Transit improvements can also reduce the need for other costly public infrastructure, like roads and sewers, by supporting land use policies that favor compact development.

Despite these benefits, the MBTA cannot afford any, much less all, of the transit expansions it is required or expected to build. Limits on state support under forward funding, a crushing debt burden inherited from the last wave of expansion, an enormous backlog of deferred maintenance and repair, and the need to improve services and attract new riders dictate that the T spend all of its limited capital resources on sustaining and modernizing the existing system.

This reality was acknowledged in the Romney administration's recently released 20-year transportation plan, which would shift financial responsibility for MBTA expansion, including Central Artery mitigation projects, to the Commonwealth (with the significant exceptions of Greenbush and the Silver Line Phase III). However, the plan proposes little in the way of new revenues, and without additional funding sources, the state cannot afford to finance T expansion projects without sacrificing other important capital investments.

Luberoff correctly argues that in this era of limited resources, making hard choices about the state's transit priorities — both between rail and other transit modes, and among new rail lines — is absolutely crucial. To make the right tradeoffs, the state needs to bring same kind of critical, fact-based analysis to the economic and social benefits and costs of transit that he applies to air quality and congestion.

"We should be wary when advocates and officials offer new rationales."

Read the original article

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David Luberoff replies:

Reading the comments on my article made me think of the scene in *Alice in Wonderland* when the March Hare tells Alice, "You should say what you mean," and Alice replies, "I do, at least – at least I mean what I say."

In his January 1991 ruling approving the Big Dig's environmental impact study, John DeVillars, then the state's secretary of environmental affairs, ruled that the transit projects were "absolutely necessary to achieve greater air quality improvements in metropolitan Boston." A few months later, Doug Foy, then the head of the Conservation Law Foundation, told *The Boston Globe*: "If they conclude that they don't want to go ahead with these transit measures, then basically the artery project can't go forward." He added: "The measures are indispensable to making the artery work environmentally."

My article asked whether the state's transportation and air quality plans and analyses support these assertions. They do not. And none of the commentators makes any effort to rebut that conclusion.

Rather, several criticize me for ignoring the transit projects' many other benefits. The public record is quite clear, however, that the projects' other benefits were not a significant part of the discussion or debate when the Big Dig's environmental permits were being issued.

Some commentators who were involved with the original permitting process indicate they thought the projects were justified primarily on grounds other than clean air but that the environmental permitting process was the best opportunity to ensure that the projects got built. It seems to me we should be wary when the environmental permitting process is used — explicitly or surreptitiously — to advance goals, such as economic development, that are laudable but are not primarily about environmental protection. And we should be especially wary when advocates and officials offer new rationales in place of claims that turned out to be false.

Let's take a closer look at some of those new rationales. Several advocates argue, for example, that the Big Dig transit projects are justified because they will spur economic development in ways that do not exacerbate sprawl. If they are right, areas with extensive downtown-oriented rail transit systems should have more jobs in their urban core than areas that lack those rail services.

As of 1996, among the 13 metropolitan with more than 1 million jobs, Boston had the second highest share of jobs within three miles of its Central Business District (CBD) and the fourth highest share of jobs within 10 miles of the CBD. (See table, below)

Since Boston has an extensive rail transit system, it would be easy to conclude that rail transit is responsible for the region's relatively concentrated employment patterns. But the Phoenix and Minneapolis/St. Paul metropolitan areas, which both lacked rail transit in 1996, had a higher share of jobs within 10 miles of their CBD than Boston. Phoenix, along with Seattle, also had more jobs within three miles of its CBD than Philadelphia Chicago, Washington, DC, and Atlanta, which have extensive rail transit systems.

Such information indicates there is no simple correlation between the rail transit and the concentration of jobs in the urban core. It also suggests we should no longer accept unsubstantiated claims about the benefits of the Big Dig transit projects or any other projects. Rather, we should demand full and accurate assessment of benefits because such projects cost the Commonwealth's taxpayers hundreds of millions of dollars to build and tens of millions of dollars to operate. Other transit projects — including other rail transit

projects —may produce greater benefits in terms of air quality, congestion reduction, mobility, economic development, and economic opportunity. It may also be that we could achieve many of the same goals more effectively by spending the money allocated to the transit projects on health care, education, other social needs, or on tax cuts.

But we won't know unless we are willing to ask and answer some difficult questions.

Employment Location in Major US Metropolitan Areas, 1996

Region	Total employment within 35 miles (millions)	Share of employment within three miles of the CBD	Share of employment within 10 miles of the CBD	Extensive rail transit as of 1996?
Los Angeles-Long Beach	3.2	6.9%	38.1%	No
New York	3.1	45.3%	77.4%	Yes
Chicago	2.8	18.7%	36.4%	Yes
Philadelphia	1.9	16.6%	40.4%	Yes
Detroit	1.6	5.2%	22.0%	No
Boston	1.5	25.7%	55.0%	Yes
Washington, DC	1.5	18.9%	52.7%	Yes
Atlanta	1.5	11.3%	38.1%	Yes
Houston	1.4	12.0%	49.7%	No
Dallas	1.4	11.4%	42.1%	No
Minneapolis /St. Paul	1.3	12.6%	63.4%	No
Phoenix	1.0	19.3%	59.2%	No
Seattle	1.0	22.5%	50.5%	No

Notes: Regions are PMSAs as defined by the US Census Bureau. The table includes all regions with more than 1 million jobs.

Source: Edward Glaeser and Matthew Kahn, "Decentralized Employment and the Transformation of the American City," *Brookings-Wharton Papers on Urban Affairs*, 2001.